

## TNP-GTP sodium

## Chemical Properties

CAS No. :

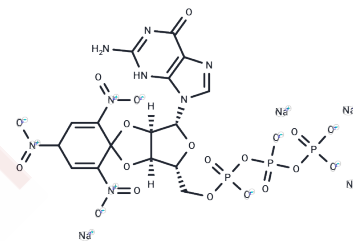
Formula: C<sub>16</sub>H<sub>13</sub>N<sub>8</sub>O<sub>20</sub>P<sub>3</sub>.4Na

Molecular Weight: 822.20

Keep away from direct sunlight

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	TNP-GTP, a fluorescent derivative of guanosine 5'-triphosphate (GTP), essential for protein synthesis and gluconeogenesis, exhibits an emission peak at 552 nm when excited at 410 nm in water. Its fluorescence intensity increases and emission peaks shift to 544 nm and 532 nm in 40% and 80% N,N-dimethylformamide, respectively, due to the solvent's lower polarity compared to water. As a potent inhibitor of glutamate dehydrogenase (K <sub>i</sub> = 2.7 μM), TNP-GTP enhances fluorescence and shifts its emission to 545 nm upon binding to this enzyme, a process reversible by GTP addition. Additionally, it serves as an antagonist to purinergic P2X <sub>2</sub> and P2X <sub>2/3</sub> receptors (IC <sub>50</sub> s = 0.4 and 1.2 nM, respectively) and selectively inhibits rat soluble guanylyl cyclase (sGC; K <sub>i</sub> = 11 nM) over bovine liver glutamate dehydrogenase (GDH; K <sub>i</sub> = 2.7 μM) and the calmodulin-dependent B. pertussis adenylyl cyclase (AC) toxin, with inhibition constants of 20 μM and 320 μM in the presence of manganese and magnesium, respectively.
Targets(IC50)	Others

## Solubility Information

Solubility	H <sub>2</sub> O: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	1.2162 mL	6.0812 mL	12.1625 mL
5 mM	0.2432 mL	1.2162 mL	2.4325 mL
10 mM	0.1216 mL	0.6081 mL	1.2162 mL
50 mM	0.0243 mL	0.1216 mL	0.2432 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481